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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/312,302	05/14/1999	MARIO D. NEMIROVSKY	P3803	2422

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EXAMINER

DONAGHUE, LARRY D

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/312,302

Applicant(s)

Examiner

Larry Donaghue

Group Art Unit

2574

**—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—****Period for Response**A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

- ☒ Responsive to communication(s) filed on 1/22/03
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

- ☒ Claim(s) 1-42 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-42 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

**Application Papers**

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119 (a)-(d)**

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

\*Certified copies not received: \_\_\_\_\_

**Attachment(s)**

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_ ☐ Interview Summary, PTO-413
- ☐ Notice of References Cited, PTO-892 ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948 ☐ Other \_\_\_\_\_

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1. Claims 1-42 are presented for examination.
2. The rejection is maintained and set forth below.
3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 7, 21, and 35 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant has merely supplied a suggestion to do, a suggestion to do does raise the specification to the level of enablement.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 5-6, 8-12, rejected under 35 U.S.C. 102(b) as being anticipated by

Nemirovsky (DISC, A Dynamic Stream Computer).

Nemirovsky taught the invention as claimed including a processor executing a plurality of streams (page 63), a set of functional resources page (101 and 102) , interrupt logic (page 96) and interrupts are mapped to one or more specific streams (page 63).

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As to claim 2 and 3, Nemirovsky taught one exception or interrupt mapped to two or more streams ( page 63) and two or more interrupts or exception is mapped to one stream ( page 63).

As to claim 5, Nemirovsky taught that the mapping is programmable (pages 94-98).

As to claim 6, Nemirovsky taught the interrupt logic refers to a data store (page 96, fig. 5.13).

As to claim 8 and 9, Nemirovsky taught the interrupts are from an external device and software interrupts (page 95).

As to claim 10, Nemirovsky taught a mask (page 96).

As to claims 11-12 , Nemirovsky taught after interrupting the streams and vectoring to a service routine (pages 96-97).

7. Claims 4, 13-14, 27, 32-33 and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over as applied to claims above, and further in view of Nemirovsky et al. (DISC, A Dynamic Stream Computer).

Nemirovsky et al. (DISC, A Dynamic Stream Computer) reference was cited by applicant on paper no.2.

As to claims 13, 27 and 41, Nemirovsky did not expressly teach delaying the vectoring to a service routine, Nemirovsky et al. taught that this technique is useful in synchronization (page

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167, section titled Interrupts). It would have been obvious to one of ordinary skill in the art to combine these references as they are directed to the same device.

As to claims 14, 33, and 42, Nemirovsky taught that different streams vector to different service routines (page 96, first paragraph).

As to claims 4, 18 and 32, Nemirovsky (page 64) mapping is static at processor design, by suggesting it would be beneficial to have a dedicated IS for interrupts.

8. Applicant's arguments filed 01/22/03 have been fully considered but they are not persuasive.

Applicant argues: Regarding claims 7, 21, and 35 the Examiner stated that the claims contain subject matter, which was not adequately described in the specification, and that applicant has merely supplied a suggestion to do. In response, applicant respectfully points out to the Examiner that conditional and dynamic mapping, as recited in the claims, is the one of several possible mechanisms used for processing external interrupts once an external interrupt has been detected, in practice of the present invention as claimed. The interrupt logic receives the interrupt and decides which stream or streams to interrupt depending on the type of interrupt and on one or any combination of said mechanisms. Applicant refers the Examiner to applicant's specification (page 31, line 5 to page 33, line 21) wherein a detailed description is given of such mapping mechanisms. Applicant believes that no further elaborate detail is required for enabling one skilled in the art to practice the invention.

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**IN RESPONSE:**

Applicant citation is directed to a suggestion of to try one of several possible mechanisms, with supply a detail enable of any.

Regarding applicant's independent claims 1, 15, and 29, the Examiner stated that Nemirovsky taught the invention as claimed including a processor executing a plurality of streams (page 63), a set of functional resources (page 101 and 102), interrupt logic (page 96), and that interrupts are mapped to one or more specific streams (page 63). Applicant respectfully traverses the Examiner's statement, and argues that the reference of Nemirovsky clearly does not teach, suggest or claim wherein through the interrupt logic specific interrupts or exceptions are detected and mapped to one or more specific streams.

The Examiner stated that Nemirovsky taught applicant's invention including that interrupts are mapped to one or more specific streams. Nemirovsky (page 63) clearly describes that, of the four instruction streams running concurrently, one stream may be assigned for housekeeping, or other low-priority type tasks, another stream can be assigned to the number crunching type of processing, and the remaining instruction streams may be assigned to interrupts and/or event-driven requests. The teaching of the Nemirovsky reference is that one or more streams may be reserved for interrupts; not that interrupts detected may be mapped to streams. The two are vastly different.

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Applicant argues that assigning two of the four streams to interrupts, as taught in Nemirovsky, has nothing whatever to do with detecting and mapping specific interrupts or exceptions to one or more specific streams, as is specifically recited in applicant's claim 1. Applicant has carefully reviewed the reference provided by the Examiner and nowhere has applicant found any specific teaching of wherein through the interrupt logic specific interrupts or exceptions are detected and mapped to one or more specific streams.

**IN RESPONSE:**

Nemirovsky taught that two or more streams are reserved for handling interrupts, as the system has more than two interrupts, the teaching of Nemirovsky would require that each specific interrupt be mapped (assigned) to the two streams reserved for interrupts.

Applicant therefore believes that independent claims 1, 15 and 29 are patentable in their present form over the prior art of Nemirovsky. Depending claims 2-14, 16-28, and 30-42 are then patentable on their own merits or at least as depended from a patentable claim. The Examiner has rejected claims 4, 13-14, 18, 27-28, 32 and 41-42 as being unpatentable over Nemirovsky as applied to claims 1-3, 5-6, 8-12, 15-17, 19-20, 22-26, 29-31, and 36-40, and further in view of Nemirovsky et al. All of the above rejected claims depend from the independent claims. In view of applicant's arguments presented above on behalf of the independent claims, the above dependent claims are patentable on their own merits, or at least as depended from a patentable claim, as Nemirovsky clearly fails to anticipate all of the specific limitations of applicant base claims.

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**IN RESPONSE:**

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

As all of the claims standing for examination as amended have been shown to be patentable over the art of record, applicant respectfully requests reconsideration and that the present case be passed quickly to issue.

**IN RESPONSE:**

This is unclear as no claims were amended.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however,



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will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to L. Donaghue whose telephone number is (703) 305-9675. The examiner can normally be reached on M-F from 8:00 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An , can be reached on (703) 305-9678. The fax phone number for an official fax is (703) 746-7238, an after-final fax is 703-746-7238 and a draft or non-official fax is 703-746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

LARRY D. DONAGHUE  
PRIMARY EXAMINER

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.